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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,054	01/08/2001	James N. Petite	297/93/2	7757

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DURHAM, NC 27707

EXAMINER

WILSON, MICHAEL C

ART UNIT	PAPER NUMBER
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1632

DATE MAILED: 05/31/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/757,054

Applicant(s)

PETITTE ET AL.

Examiner

Michael Wilson

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 44-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 44-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☒ Other: *detailed action*.

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### **DETAILED ACTION**

The Examiner and Art Unit location of your application has changed to Michael C.

Wilson, Art Unit 1632.

Claims 1-43 have been canceled. Claims 44-54 have been added.

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The form and legal phraseology often used in patent claims, such as "comprising" and "consisting essentially of," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

2. The first line of the specification needs updated.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 44-54 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as originally filed did not contemplate the combination

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of elements claimed. In particular, the specification did not contemplate culturing avian PGCs for one or two months. The specification did not contemplate culturing avian feeder cells isolated from the gonad/genital ridge with PGCs isolated from embryos later than stage 14. Nor did the specification teach the culture conditions required to maintain PGCs in culture for one or two months in the presence of avian feeder cells isolated from the gonad/genital ridge. Applicants cite pg 5, line 3-10, pg 13, line 21 through pg 14, line 19 and claims 1-43 as originally filed which do not contemplate the combination of elements claimed.

4. Claims 44-54 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a culture comprising PGCs and avian feeder cells does not reasonably provide enablement for culturing PGCs and avian feeder cells for one or two months. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

Claims 53 and 54 require culturing the PGCs for more than a month or two months. At the time of filing, Ponce De Leon (1997, Revista Brasileira de Reproducao Animal, Vol. 21, pg 96-101) taught LIF, bFGF, IGF and SCF are required for long term culture of avian PGCs. However, the art did not teach how to culture avian PGCs in the presence of avian feeder cells for one or two months. The specification does not teach how to culture avian PGCs in the presence of avian feeder cells for one or two months. Given the teachings in the specification taken with the guidance provided in the specification, it would require one of skill in the art undue

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experimentation to determine how to maintain avian PGCs in the presence of avian feeder cells for one or two months.

The specification does not enable obtaining culturing PGCs having an ES cell phenotype for at least one or two months as broadly claimed. An ES cell is considered a cell capable of becoming both a somatic and germ cell upon being introduced into an embryo (pg 1, line 17). Simkiss (1990, 4th World Congr. Genetic Appl. Livestock Prod., Vol. 16, pg 111-114) and Petite (1990, Development, Vol. 108, pg 185-195) taught chicken PGCs capable of producing somatic and germ cell chimeric chickens. The stage of isolation and culture conditions required to maintain chicken ES cells for at least a month or two are not taught in the art or the specification. The stage and conditions required to obtain ES cells in species other than chickens are not taught in the art or the specification. Given the teachings in the art taken with the teachings in the specification, it would have required one of skill undue experimentation to isolate any avian ES cell other than chicken ES cells or to maintain any ES cell for one or two months as broadly claimed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 44-54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The cells encompassed by the phrase “undifferentiated avian cells expressing an embryonic stem cell phenotype” is unclear. It is unclear if the cells merely share a phenotype in common with avian ES cells or if the cells are avian ES cells. The specification defines cells having an ES cell phenotype as having a large nucleus, prominent nucleolus and little cytoplasm. However, the specification does not define how large, prominent or little the nucleus, nucleolus and cytoplasm are. Therefore, the metes and bounds of cells encompassed by the phrase cannot be determined.

The phrase “preconditioned feeder matrix” is unclear. It is unclear how the matrix is conditioned; therefore, the metes and bounds of such matrixes cannot be determined. It is unclear what “pre” is in reference to; therefore, the steps in the method used to make the product claimed cannot be determined. It is unclear how “preconditioned feeder matrix” is conditioned in relationship to the “conditioned media.”

The phrase “conditioned media” is indefinite. It is unclear how the media is conditioned; therefore, the metes and bounds of such media cannot be determined. In particular, “BRL conditioned media” is indefinite because the steps required to “condition” the media are not recited in the claims, the components added resulting in “BRL conditioned media” are not recited in the claims and because BRL is an abbreviation that should be written out.

The phrase “(H&H)” is indefinite. It is unclear whether “(H&H)” is intended to further limit the stage or if it is a method of staging that is required in the claim.

The metes and bounds of “stromal cells” is indefinite. Stromal cells are part of an organ or other structure (see definition of “stromal” <http://cancerweb.ncl.ac.uk/cgi-bin/omd?stromal>).

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Therefore, any cell isolated from an animal is a stromal cell. It is unclear how the PGCs are distinguished from the stromal cells as claimed because they are both part of the gonad. It is unclear how gonadal cells, or genital ridge cells further limit stromal cells as claimed. While stromal cells such as fibroblasts may be isolated from the gonad or genital ridge, they are not gonadal cells or genital ridge cells as claimed because they are not germ cells and provide no function in the gonads or genitals.

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The metes and bounds of a matrix “derived” from gonadal or genital ridge cells cannot be determined. It is unclear whether any fibroblast is encompassed by the claim as it may have been derived from gametes made from gonadal or genital ridge cells. The metes and bounds of cells “derived” from an embryo later than stage 14 are unclear because any cell is “derived” from such cells because all cells are “derived” from gametes and gametes are “derived” from an embryo later than stage 14.

It is unclear how PGCs isolated from an embryo later than stage 14 is distinguished from PGCs isolated from a stage X or stage 14 embryo. PGCs isolated from stage X, XIV and XV have the same structure and function. They are capable of making germline chimeras upon being introduced into an embryo. As such, the distinction of PGCs isolated after stage XIV cannot be determined.

The metes and bounds of “gonadal cells” or “genital ridge cells” cannot be determined. It is unclear if the cells are isolated from the gonad or genital ridge or if the cells have some gonadal

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or genital function. It is unclear how such cells isolated from an embryo later than stage 14 are distinguished from gonadal cells or genital ridge cells isolated from a stage X or stage 14 embryo.

Claim 52 is indefinite because the conditioned media of claim 44 does not comprise anything. Therefore, it cannot further comprise anything. In addition, the use of “further comprised of” with “supplemental growth factor” is confusing because the media in claim 44 did not comprise a first growth factor.

The metes and bounds of “sustained” in claims 53 and 54 is indefinite. The specification teaches “sustained” means capable of undergoing further cell division (pg 9, line 1). It is unclear if frozen cells that later are cultured are encompassed by the term or if the term is intended to be limited to culturing the cells for at least a month.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was

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not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

A PGC culture sustained for one or two months as claimed (claims 53, 54) does not differ from PGC cultures known in the art because their structure and functions are equivalent and because culturing PGCs for one or two months does not alter the structure or function of the culture. Therefore, the limitations in claims 53 and 54 do not bear patentable weight in considering the art because they do not distinguish the structure or function of the cells within the culture or the components of the culture from those known in the art.

Cells isolated from avian embryonic gonads or genital ridge contain both PGCs and fibroblasts, wherein said fibroblasts create a feeder layer in culture (see rejections below) which is equivalent to a “preconditioned feeder matrix” and “avian stromal cells” as claimed. Fibroblasts from the gonad or genital ridge are a “preconditioned feeder matrix” because they are present in the cell population before culturing. Fibroblasts from embryonic gonads or genital ridge are stromal because they are part of an organ or other structure (see definition of “stromal” <http://cancerweb.ncl.ac.uk/cgi-bin/omd?stromal>).

The PGCs in culture described below are “sustained” as claimed because they undergo cell division in culture (Allioli, Chang, Petite) or because they are.

Isolating cells from the gonads is equivalent to “genital ridge cells” or cells derived from genital ridge cells because gonads are made up of cells derived from the genital ridge.

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6. Claims 44-54 are rejected under 35 U.S.C. 102(b) as being anticipated by Alloli (1994, *Devel. Biol.*, Vol. 165, pg 30-37).

Alloli taught isolating chicken cells from the gonads of stage 27-28 embryos and culturing the cells in media. The sample contained PGCs as well as fibroblasts which created a feeder layer in culture. The PGCs of Alloli have an ES cell phenotype because both PGCs and ES cells are germ cells. Alloli teaches adding steel factor, LIF and FGF to the culture (pg 31, col. 2; 34, col. 2, "gonadal cell culture"; pg 36, col. 1, 2nd para.). Thus, Alloli anticipates the claims.

7. Claims 44-54 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang (1997, *Cell Biol. International*, Vol. 21, pg 495-9).

Chang taught isolating stromal cells from the genital ridge of day 5 (stage 27-28) embryos. The cells were cultured in media containing IGF, FGF and LIF (pg 144, col. 1). These cells inherently contain PGCs (pg 144, col. 1 para. 4; col. 2, 3 lines from the bottom; pg 146, Fig. 2, "PGCs derived from 5-day embryonic ridge in culture"). The PGCs have an ES cell phenotype because they are germ cells. The cell culture was maintained for at least 4 days (pg 14, col. 1, 3rd para., line 5).

Chang also taught isolating PGCs from the blood of day 2 (stage 13-14) embryos and adding the day-2 PGCs to the cells isolated from the genital ridge (pg 144, col. 2, 3rd para.; col. 2, "Results"). PGCs isolated from stage 13-14 are equivalent to PGCs isolated later than stage 14 as claimed because they have the same structure and function. Therefore, avian PGCs collected from an avian embryo "later than stage 14" as claimed does not bear patentable weight because it

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does not distinguish the structure or function of the PGCs within the culture from those taught by Chang.

8. Claims 44-54 are rejected under 35 U.S.C. 102(e) as being anticipated by Petite (US Patent 6,333,192).

Petite taught isolating PGCs and stromal cells from the gonads of stage 27-30 embryos. The cells were cultured in DMEM (col. 9, line 24-37, lines 49-55; claim 1). Petite does not teach the avian fibroblasts were removed prior to adding the cells to STO feeder cells. Therefore, the culture of Petite maintained for 5 days also has an avian fibroblast feeder cell matrix as claimed. The STO feeder cells can be replaced with avian fibroblast feeder cells (col. 5, line 64). LIF, IGF, FGF and SCF can be added to the media (col. 6, line 39). Thus, Petite anticipates the claims.

9. Claims 44-54 are rejected under 35 U.S.C. 102(e) as being anticipated by Petite (US Patent 6,354,242).

Petite taught isolating PGCs and stromal cells from the gonads of stage 27-30 turkey embryos and culturing the cells in DMEM. The stromal cells created their own feeder layer which is a "preconditioned feeder matrix" because it is present prior to adding the gonadal cells into culture. The germ cells were used to create chimeras (col 6, line 41-49) which is an ES cell phenotype.

10. Claims 44-54 are rejected under 35 U.S.C. 102(e) as being anticipated by Petite (US Patent 5,340,740), Petite (US Patent 5,656,479) or Petite (US Patent 5,840,510).

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Petitte taught isolating PGCs from stage X embryos. The cells were seeded onto chicken embryonic fibroblast feeder layers and cultured with BRL conditioned medium (col. 7, lines 7-14, of '740; col. 6, line 44, of '479; col. 6, line 54-65, of '510). PGCs isolated from stage X are equivalent to PGCs isolated later than stage 14 as claimed because PGCs isolated from stage X and XIV have the same function. Therefore, avian PGCs collected from an avian embryo "later than stage 14" as claimed does not bear patentable weight because it does not distinguish the structure or function of the PGCs within the culture from those taught by Petite. The entire embryo was cultured which inherently comprises "genital ridge" and "gonadal" cells. Thus, Petite anticipates the claims.

11. Claims 44-54 are rejected under 35 U.S.C. 102(e) as being anticipated by Ponce de Leon (US Patent 6,156,569).

Ponce de Leon taught isolating PGCs isolated from cells of stage XIV embryos. The cells were cultured with complete medium, LIF, FGF, IGF and SCF for at least 25 days (col. 7, line 43 through col. 8, line 53). The PGCs were capable of creating a chimeric chicken which is a phenotype of ES cells. PGCs isolated from stage XIV are equivalent to PGCs isolated later than stage 14 as claimed because PGCs isolated from stage XIV and XIV have the same structure and function. Therefore, avian PGCs collected from an avian embryo "later than stage 14" as claimed does not bear patentable weight because it does not distinguish the structure or function of the PGCs within the culture from those taught by Ponce de Leon. Thus, Ponce de Leon anticipates the claims.

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### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 44-54 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2, 3, 13, 19 and 23 of copending Application No. 08/446,021. Although the conflicting claims are not identical, they are not patentably distinct from each other because both require avian PGCs having an ES cell phenotype. The avian stem cells in '021 are somatic tissue-specific stem cells. The undifferentiated avian cells having an ES cell phenotype in the instant claims are somatic stem cells because they can become somatic tissue.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

13. Claims 44-54 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 21-27 of copending Application No. 09/094176. Although the conflicting claims are not identical, they are not

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patentably distinct from each other because both require avian PGCs having an ES cell phenotype.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

14. Claims 44-54 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 19, 35 of U.S. Patent No. 6,333,192 in view of Chang (1995, Cell Biol. Internat'l., Vol. 19, page 143-9).

Claims 1, 19 and 35 of '192 claim a method of culturing undifferentiated avian cells having an ES cell phenotype. '192 did not claim culturing the cells on avian feeder cells or the cell culture made by the method.

However, at the time of filing, Chang taught culturing PGCs on avian stromal cells. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to isolate avian cells having an ES cell phenotype as taught by '192, wherein the avian cells are cultured on avian feeder cells. One of ordinary skill in the art at the time the invention was made would have been motivated to use avian feeder cells to increase the number of PGCs as taught by Chang (abstract).

Thus, Applicants' claimed invention as a whole is *prima facie* obvious in the absence of evidence to the contrary.

15. Claims 44-54 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 8-10 of U.S. Patent No. 5,340,740 in view of Chang (1995, Cell Biol. Internat'l., Vol. 19, page 143-9).

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Claims 1 and 8-10 claim a sustained culture of undifferentiated avian cells having an ES cell phenotype and methods of making such a culture. '740 did not claim culturing the cells on avian feeder cells or the cell culture made by the method.

However, at the time of filing, Chang taught culturing PGCs on avian stromal cells. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to isolate avian cells having an ES cell phenotype as taught by '740, wherein the avian cells are cultured on avian feeder cells. One of ordinary skill in the art at the time the invention was made would have been motivated to use avian feeder cells to increase the number of PGCs as taught by Chang (abstract).

Thus, Applicants' claimed invention as a whole is *prima facie* obvious in the absence of evidence to the contrary.

16. Claims 44-54 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 5,656,479 or 5,830,510 in view of Chang (1995, Cell Biol. Internat'l., Vol. 19, page 143-9).

Claim 1 of '479 and '510 are directed toward a sustained avian cell culture consisting essentially of undifferentiated avian cells expressing an embryonic cell phenotype. Claim 2 states the cells may be cultured on STO feeder cells in the presence of LIF. '479 and '510 did not claim culturing the cells on avian feeder cells.

However, at the time of filing, Chang taught culturing PGCs on avian stromal cells. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made

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to isolate avian cells having an ES cell phenotype as claimed in '479 and '510 wherein the avian cells are cultured on avian feeder cells. One of ordinary skill in the art at the time the invention was made would have been motivated to use avian feeder cells to increase the number of PGCs as taught by Chang (abstract).

Thus, Applicants' claimed invention as a whole is *prima facie* obvious in the absence of evidence to the contrary.

17. Claims 44-54 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. 6,156,659 in view of Chang (1995, Cell Biol. Internat'l., Vol. 19, page 143-9).

Claims 1-12 of '659 claim a method of culturing undifferentiated avian cells having an ES cell phenotype for at least 14 days using LIF, bFGF, IGF and SCF. '659 did not claim culturing the cells on avian feeder cells.

However, at the time of filing, Chang taught culturing PGCs on avian stromal cells isolated from the genital ridge of Stage 27-28 embryos. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to isolate avian cells having an ES cell phenotype as taught by '659, wherein the avian cells are cultured on avian feeder cells. One of ordinary skill in the art at the time the invention was made would have been motivated to use avian feeder cells to increase the number of PGCs as taught by Chang (abstract).

Thus, Applicants' claimed invention as a whole is *prima facie* obvious in the absence of evidence to the contrary.

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*Conclusion*

No claim is allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wilson who can normally be reached on Monday through Friday from 9:00 am to 5:30 pm at (703) 305-0120.

Questions of formal matters can be directed to the patent analyst, Dianiece Jacobs, who can normally be reached on Monday through Friday from 9:00 am to 5:30 pm at (703) 305-3388.

Questions of a general nature relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1235.

If attempts to reach the examiner, patent analyst or Group receptionist are unsuccessful, the examiner's supervisor, Deborah Reynolds, can be reached on (703) 305-4051.

The official fax number for this Group is (703) 308-4242.

Michael C. Wilson

